

REMARKS/ARGUMENTS

Rejections under 35 U.S.C. § 103

In order to "establish a prima facie case of obviousness, three basic criteria must be met." MPEP § 7.06.02(j). First, there must be some motivation or suggestion to modify the reference or to make the proposed combination. Second, there must be a reasonable expectation of success. "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure." MPEP § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). Third, the combined references must teach or suggest all claim limitations.

The Examiner has failed to establish a prima facie case of obviousness to the extent that there is no motivation or suggestion to make the proposed combinations of the references as directed by the Examiner. According to the MPEP, [i]n order to support a conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention obvious in light of the teachings of the references. MPEP 2142 (citing *Ex parte Clapp*, 277 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985)) (emphasis added). Further, "[w]hen the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the examiner to explain why the combination of teachings is proper." MPEP 2142 (citing *Ex Parte Skinner*, 2 USPQ2d 1788 (Bd. Pat. App. & Inter. 1998)).

The Federal Circuit has recently emphasized the importance of providing evidence of motivation to combine in *Winner Int'l Royalty Corp. v. Ching-Rong Wang*, 202 F. 3d 1340, 1348-49 (Fed. Cir. Jan. 27, 2000). "Although a reference need not expressly teach that the disclosure contained therein should be combined with another . . . the showing of combinability, in whatever form, must nevertheless be 'clear and particular.'" *Winner*, 202 F. 3d at 1348-49 (citations omitted). Further, the "absence of such a suggestion to combine is dispositive in an obviousness determination." *Gambro Lundia AB v. Baxter Healthcare Corp.*, 11 F.3d 1573, 1579 (Fed. Cir. 1997).

Applicants submit that the Examiner has not satisfied his initial burden of providing "clear and particular" evidence of motivation to combine for any of the proposed combinations of references. Instead, it appears that the Examiner has simply identified references that allegedly disclose the elements of the claim, and has combined them. Even assuming *arguendo* that the references contained all elements of the claimed invention, it is still impermissible to reject a claim as

Appl'n No. 09/594,719
Responsive Amendment dated January 18, 2006
Reply to Office Action of October 18, 2005

being obvious simply "by locating references which describe various aspects of a patent applicant's invention without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done." Ex parte Levengood, 28 USPQ2d 1300, 1303 (Bd. Pat. App. & Inter. 1993) (emphasis added).

1. a) **§ 103 Rejections based on "Senoh" (U.S. Patent No. 6,240,121) and "Kato et al." (U.S. Patent No. 6,301,663) as applied to Claims 1 – 61**

b) **§ 103 Rejections based on "Senoh" (U.S. Patent No. 6,240,121) as applied to Claims 62 – 72**

Claims 1 - 61 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Senoh in view of Kato et al. The Examiner asserts that "... combin[ing] embedding a second watermark into said remainder signal, as taught by Kato et al., with the method/system of Senoh" October 18, 2005 Office Action at Page 4. Further, it has been asserted that Senoh discloses "subtracting said reduced data signal from the data signal to produce a remainder signal" October 18, 2005 Office Action at Page 3. Applicants respectfully disagree. The independent claims require at least the following elements, absent in either reference: 1) a remainder signal; 2) a subtraction step; and 3) addition of modified (i.e., watermarked, scrambled, encrypted, etc.) reduced and/or remainder signals to produce "an output signal". A general illustration:

- a) a data reduction technique is applied to reduce a data signal to a reduced data signal;
- b) a remainder signal is generated by subtracting the reduced data signal from the unreduced data signal;
- c) a cryptographic technique is applied to the reduced data signal;
- d) a cryptographic technique is applied to the remainder signal; and
- e) adding the manipulated, reduced data signal to the manipulated, remainder signal to produce an output signal.

Contrary to the Examiner's assertion, Senoh teaches a watermarking method which separates a first set of frequency transform coefficients to be watermarked and a second set which is not watermarked. This second set being used for detection as a "reference" or "difference" signal (Senoh at Col. 2 ll. 28-45). As well, Senoh never discloses any method or system for scrambling or encryption to modify a data signal. Kato et al. teaches a "key sharing" system requiring a physical disk in combination with information extracted from a watermark and key information stored on the disk. The signal is otherwise encrypted and cannot be combined with Senoh or any other cited reference. No

reduced and/or remainder signal is disclosed by either reference to form an output signal. Kato et al. at Abstract [emphasis added]:

This invention protects the unauthorized copy of multimedia data, **recorded on an information recording medium**, by using electronic watermark information and key information. The **electronic watermark information embedded in the multimedia data is extracted by an electronic watermark extraction unit on the decryption system side**. A disk key is obtained using the **electronic watermark information and a part master key**. The multimedia data is decrypted using the resultant disk key.

Second, the combination of Senoh and Kato fails to disclose all elements of Claims 1, 10, 20, 25, 37, 45, 51, 60 and 62 (and all claims that depend therefrom). Applicants point out the cryptographic techniques used to modify the reduced and/or remainder signals of the following claims: Independent Claim 1 "add[s] said watermarked, reduced data signal to said remainder signal to produce an output signal"; Independent Claim 10 "add[s] said watermarked, reduced data signal to said watermarked remainder signal"; Independent Claim 20 "add[s] said scrambled, reduced data signal to said scrambled remainder signal"; Independent Claim 25 "add[s] said encrypted, reduced data signal to said encrypted remainder signal"; Independent Claim 37 "add[s] said encrypted, reduced data signal to said encrypted remainder signal"; and, Independent Claim 45 "add[s] said watermarked, reduced data signal to said watermarked remainder signal"; Independent Claim 51, too, discloses that "supplying an output signal corresponding to the data signal, said output signal comprising said watermark and said reduced data signal". Amended Independent Claims 60 and 62 similarly require remainder and reduced signals: "where the use of data reduction techniques comprises creation of a reduced portion of the data signal/data file and a remainder portion of the data signal/data file."

The insertion method of Senoh teaches away from the instant invention by embedding watermarks in a first set of transformed signal data *alone*, not "subtracting said reduced data signal from the data signal to produce a remainder signal" as required by the Independent Claims 1, 10, 20, 25, 37, and 45 (and all claims that depend therefrom). Senoh at Col. 2, ll. 28 - 45) [emphasis added]:

A watermark data insertion method for inserting watermark data into an input original signal according to the present invention includes: **a frequency transform step for applying a frequency transform**

to the original signal to form an intermediate signal; a watermark data insertion step for inserting the watermark data into a first set of frequency components of the intermediate signal; and a frequency inverse transform step for applying an inverse frequency transform to the intermediate signal, the watermark data having been inserted into the intermediate signal, thereby obtaining a signal containing the watermark data embedded therein, wherein the watermark data insertion step includes: determining, based on pseudo random numbers, the first set of frequency components of the intermediate signal into which the watermark data is inserted; and using a second set of frequency components of the intermediate signal as a reference signal, the watermark data not being inserted into the second set of frequency components.

As taught by Senoh, and known in the art steganography, this approach cannot yield the "output signal" of the Applicants, since 1) no remainder signal is generated by a subtraction step and 2) no output signal is produced by the addition of a reduced signal and a remainder signal, as required by the claims.

Kato et al. similarly prevents the formation of the "output signal" of the Applicants' claimed invention[s] never disclosing any means for creating a remainder signal. Assuming, *arguendo*, Kato et al. taught "output signal[s]" similar to those of the Applicants, the disk from which watermark data is extracted needs to be decrypted first, and the embedded key material must be combined with the disk key material to perform the decryption – **however**, neither a "reduced" nor a "remainder" signal is disclosed, as Kato et al is specific to an encrypted signal stored on a recording medium. Kato at Col. 18 ll. 8-40 [emphasis added]:

In each embodiment described above, an information recording medium is a DVD. However, the present invention is also applicable to other recording media such as CD-ROM.

...

The arrangement of the decryption/determination unit shown in the first embodiment is a merely example, and any other arrangement may be used.

Appl'n No. 09/594,719

Responsive Amendment dated January 18, 2006

Reply to Office Action of October 18, 2005

According to the present invention, part of information necessary for correctly decrypting or reproducing the recorded data is embedded in data recorded on the recording medium such as a DVD in accordance with the electronic watermark technique. Only authentic persons who can correctly decode (decrypt) the data sent by different means can perfectly decode (decrypt) the data.

Last, there is no motivation to combine these two references as claimed in accordance with the claimed invention. The prior art references cited by Examiner, does not disclose the generation of any remainder signal. The combination teaches that Senoh with Kato et al.'s "encrypted disk" would logically result in Senoh's transformed signal *independent* of the encrypted, seemingly random data encoded on Kato et al.'s disks. No output signal resulting from a modified (watermarking, scrambling or encrypting) remainder signal and/or reduced signal, as disclosed by the Applicants, could result. The Examiner is using the instant invention as a roadmap to combine the references. Applicants therefore request the Examiner withdraw the Section 103 rejections of Claims 1 - 72 (and those claims depending therefrom).

Appl'n No. 09/594,719
Responsive Amendment dated January 18, 2006
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Conclusion

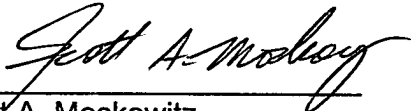
Applicant maintains that this application is in condition for allowance, and such disposition is earnestly solicited.

It is believed that no other fees are required to ensure entry and consideration of this response.

Respectfully submitted,


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By:



Scott A. Moskowitz
Tel (305) 956-9041

For Blue Spike, Inc.


Scott A. Moskowitz
President